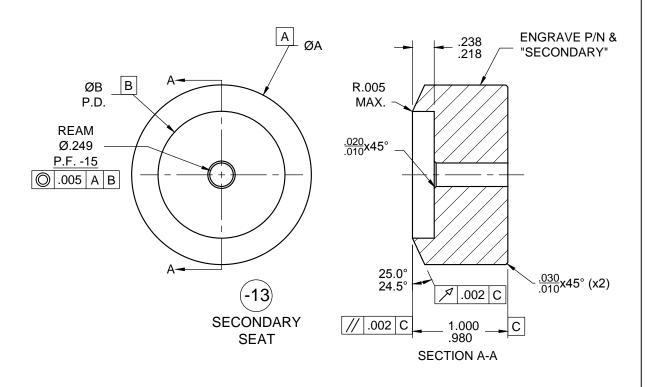


TOOL#	ØA +.000 002	PIN TYPE	QTY USED	MATERIAL			
KSTP2A2360	.873	III	1	1018	RND. BAR	Ø1 x 5/8	
KSTKR4CEGB	.248	I	2	1018	RND. BAR	Ø5/16 x 5/8	

NOTES

1. BREAK ALL SHARP CORNERS (.015/.03).

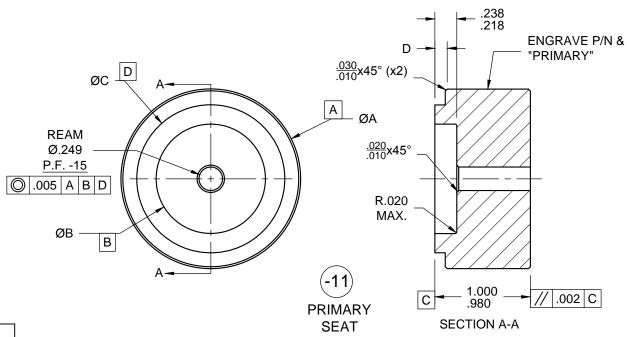
	RB F	RED	BA	4R1	1 1	44	CH.	IN	E	
TITLE	21./ \	KST GING							TNI	
DWG NO		][]L#							IIN	REV 2
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:				DRAW		PE	RRIT	Т		
.XXX .XX	MALS <u>+</u> .005 + .01	FRACTI	ONS ± 1 GLES ±.5		HEAT TREAT FINISH SPEC	1	BLAC	K (1)	XIDE	
UNLESS OTHERWISE SPECIFIED  1. BREAK ALL SHARP EDGES					ED ON B		3			
2. DI SCALE	015 x 4. MENSIONAL L NT	_			1-08	a	SHEET	9	of	9



MATERIAL  NOT USED ON THIS TOOL  4140 Q&T RND. BAR Ø1-1/4 x 1-1/8
4140 Q&T RND. BAR Ø1-1/4 x 1-1/8

## NOTES 1. BREAK ALL SHARP CORNERS (.015/.03).

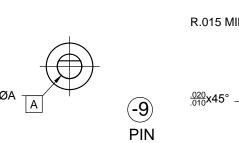
® RED	BARN	МД	CHIN	1E			
	UNIQUE			SEV.	т		
SWAGING TOOL; SECONDARY SEAT DWG NO. TOOL# (see chart)-13 REV 2							
UNLESS OTHERWISE DIMENSIONS ARE II TOLERANCES ON:		DRAWN BY: APPROVED	PERR	ITT			
1 VV + 01	ONS ± 1/32 GLES ±.5°	HEAT TREAT FINISH SPEC	BLACK				
UNLESS OTHERWISE S 1. BREAK ALL SHARF .015 x 45° PR .015		SEE Pg.					
2. DIMENSIONAL LIMITS APPLY	AFTER PLATING  DATE 4-4	l-08	SHEET 8	of	9		

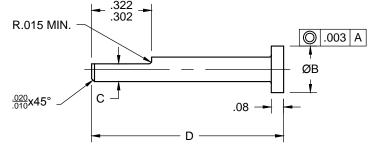


TOOL#	ØA +.000 020	ØB +.000 005	ØC +.002 002	D +.002 002	MATERIAL			
KSTP2A2360	1.625	1.280	0	0	4140 Q&T	RND. BAR	Ø1-3/4 x 1-1/8	
KSTKR4CEGB	1.062	.590	0	0	4140 Q&T	RND. BAR	Ø1-1/4 x 1-1/8	

<u>NOTES</u>
1. BREAK ALL SHARP CORNERS (.015/.03).

RED BARN	N MACHINE
KST UNIQUE	
SWAGING TOOL;  DWG NO. TOOL# (see	l pp/
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON:	DRAWN BY: PERRITT APPROVED
DECIMALS   .XXX ± .005	HEAT TREAT FINISH BLACK DXIDE
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES	USED ON BEARING SEE Pg. 1
.015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING  SCALE DITC DATE 4	1 OO SHEET 7 -C O
130011 NIS $10011$ $4-2$	1-08 l <sup>ance</sup> / of 9 l

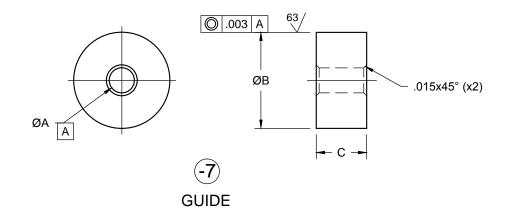




TOOL#	ØA +.000 001	ØB +.005 002	C +.000 020	D +.015 015	MATERIAL
KSTP2A2360	.129	.188	.104	1.000	MCMASTER-CARR PN: 98378A909
KSTKR4CEGB	.129	.188	.104	.875	MCMASTER-CARR PN: 98378A909

<u>NOTES</u>
1. BREAK ALL SHARP CORNERS (.015/.03).

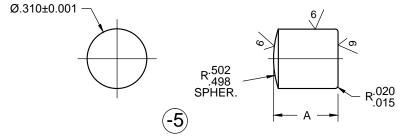
	® RE	D B	ARN	MA	CH:	INE	
TITLE		ST UN: WAGIN					
DWG NO.		]L# (				-9	REV 2
L	INLESS OTHERN DIMENSIONS A		DRAWN BY:	PE	RRITT		
	ANCES ON:	ARE IN INCHE		APPROVED			
DECIN	- 005	RACTIONS ±		HEAT TREAT			
.xx E	.01	ANGLES ±.	1/32	FINISH SPEC	BLAC	K DXIDE	
	LESS OTHERW	/ISE SPECIFI	FD	USED ON BEARING			
1. BREAK ALL SHARP EDGES					SEE P	g. 1	
2. DII	015 x 45° PF. MENSIONAL LIMITS A		ATING				
SCALE	NTS	DATE	4-4	-08	SHEET	6 of	· 9



TOOL#	ØA +.001 001	ØB +.000 002	C +.000 010	MATERIAL		
KSTP2A2360	.131	.872	.313	BRONZE RND. BAR Ø1 x 1/2		
KSTKR4CEGB	.131	.248	.240	BRONZE RND. BAR Ø3/8 x 3/8		

<u>NOTES</u>
1. BREAK ALL SHARP CORNERS (.015/.03).

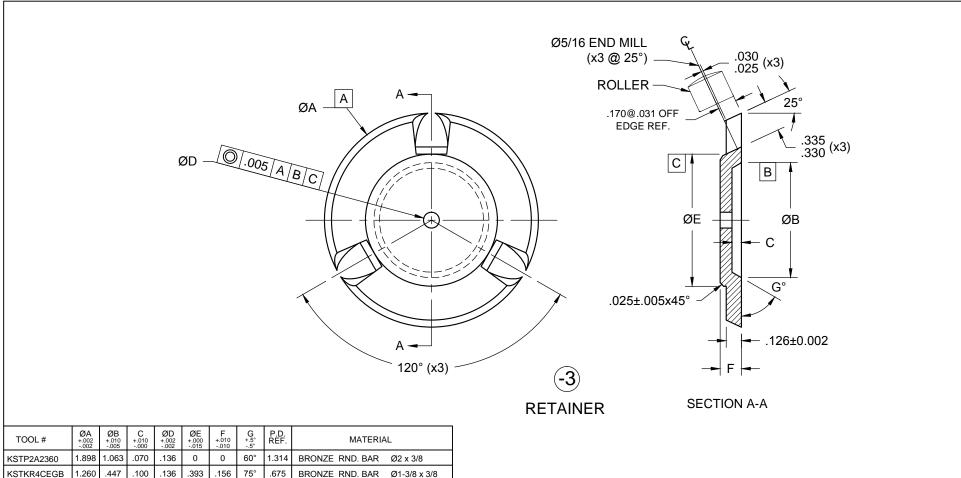
	® REI	BARI	N MA	ACH	INE	
TITLE		UNIQUE				
DWG NO	TOOL	.# (see	· cho	irt)	-7	REV 2
L	INLESS OTHERWIS DIMENSIONS ARE	DRAWN BY	: PE	RRITT		
	ANCES ON:	IN INCHES	APPROVED	)		
DECIN	- 00F	TIONIC : 4/00	HEAT TREAT			
		TIONS ± 1/32 NGLES ±.5°	FINISH SPEC			
	L .1 NLESS OTHERWISE		USED ON B	EARING		
	1. BREAK ALL SHA	RP EDGES		SEE P	g. 1	
2. DII	0. O15 x 45° PR. MENSIONAL LIMITS APPL					
SCALE	211/	DATE 4-	4-N8	SHEET	5 of	, 9



TOOL#	A +.001 001		MATERIAL	
KSTP2A2360	.335	.310 MINUS	GAUGE PIN	MSC#89031009
KSTKR4CEGB	.335	.310 MINUS	GAUGE PIN	MSC#89031009

RO	LL	Ε	R
(	x3	)	

	RB R	ED	BA	<u> 181</u>	1 1	<u> 1AC</u>	<u>H.</u>	<u>[N</u>	E	
TII	te SWAGIN	KST						)TY	′. 3	`
DW	IC NO	][][#							<del></del>	REV 2
	DLERANCES ON:	HERWISE S NS ARE IN			DRAWN		PE	RRI	гт	
(.	DECIMALS (XX ± .005 (X ± .01 ( ± .1	FRACTIC ANG	NS ± 1/ LES ±.5		HEAT TREAT FINISH SPEC					
-'	UNLESS OTH 1. BREAK A	LL SHARP	EDGES	D			ON BE		G	
S	.015 x 4 2. DIMENSIONAL LII CALE NT	1.			1–NS	<sub>}</sub>  s⊦	IEET	4	of	9

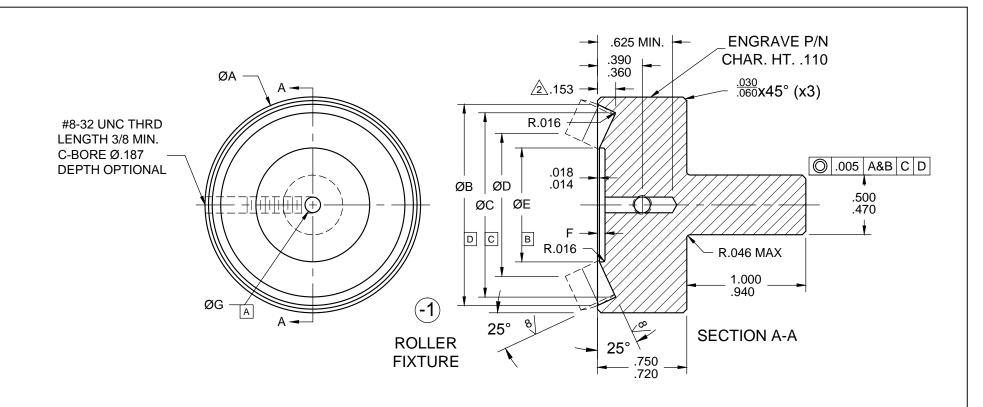


ØA +.002 002	ØB +.010 005	C +.010 000	ØD +.002 002	ØE +.000 015	F +.010 010	G +.5° 5°	P.D. REF.	MATERIA	L
1.898	1.063	.070	.136	0	0	60°	1.314	BRONZE RND. BAR	Ø2 x 3/8
1.260	.447	.100	.136	.393	.156	75°	.675	BRONZE RND. BAR	Ø1-3/8 x 3/8
1	002 002 .898	+.002 002 005 005 005	+.002 +.010 +.010 002005000 .898 1.063 .070	+.002 +.010 +.010 +.002 002005000002 003 .070 .136	+.002     +.010     +.010     +.002     +.000      002    005    000    002    015       .898     1.063     .070     .136     0	6.002     +.010     +.010     +.002     +.000     +.010      002    005    000     +.002    015    010       8.88     1.063     .070     .136     0     0	6.002     +.010     +.010     +.002     +.000     +.010     +.5°       6.002    005    000    002    015    010     +.5°       8.98     1.063     .070     .136     0     0     60°	.898 1.063 .070 .136 0 0 60° 1.314	898 1.063 .070 .136 0 0 60° 1.314 BRONZE RND. BAR

NOTES

1. BREAK ALL SHARP CORNERS (.015/.03).

	Ŕ	BRED	В	<u> 4RN</u>		MΑ	CH	IN	E	
	TITLE	KST SWAGI		IQUE TDDL			RIES TAIN			
	DWG NO.	T·OOL:	# (:	see	. C	ha	rt)-	-3		REV 2
		SS OTHERWISE			DRAV	VN BY:	PE	RRIT	T	
1	TOLERANC	ES ON:	IN INCHE	.5	APPR	ROVED				
	DECIMALS .XXX ± .00	)E	IONS ± 1	1/22	HEAT TREA	Т				
	.XX ± .0′		GLES ±.		FINIS	H				
ı		SS OTHERWISE	SPECIFI	ED		U	SED ON B	EARIN	G	
	1. BI	REAK ALL SHAR	P EDGES			SEE P	g. 1			
		015 x 45° PR .01 IONAL LIMITS APPLY		ATING						
	SCALE	2TN	DATE	4-4	1-0	8	SHEET	3	οf	9



	N	C	)	П	Ξ\$	s
Ī	-	7	ī	۸	ם	_

- 1. BREAK ALL SHARP CORNERS (.015/.03).
- <u>Ž</u> DIMENSION TO BOTTOM OF R.016=.153; DIMENSION TO SHARP CORNER=.158.
- 3. -1 BEARING RACE SUFACES MUST HAVE SMOOTH APPEARANCE, FREE FROM MACHINING MARKS AND GROOVES.

				MACHINING MARKS AND GROOVES.
				4. DO FIRST ARTICLE INSPECTION
				BEFORE HEAT TREATING.
				RED BARN MACHINE
				K21 ONIMOE 2EKIE2
				SWAGING TOOL; ROLLER FIXTURE
				DWG NO. TOOL# (see chart)-1 2
				UNLESS OTHERWISE SPECIFIED   DRAWN BY: PERRITT
				DIMENSIONS ARE IN INCHES TOLERANCES ON:  APPROVED
				DECIMALS .XXX ± .005 FRACTIONS ± 1/32 TREAT RC 55-60 .XX ± .01 ANGLES ± .5° SPEC BLACK DXIDE
				XX ‡ 01 ANGLES ± .5° SPEC BLACK DXIDE
				UNLESS OTHERWISE SPECIFIED USED ON BEARING
				1. BREAK ALL SHARP EDGES SEE Po. 1
				.015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING
				scale NTS DATE 4-4-08 SHEET 2 of 9

MATERIAL

DRILL ROD Ø1-1/2 x 1-7/8

0-1 DRILL ROD Ø2 x 1-7/8

TOOL#

KSTP2A2360

KSTKR4CEGB

1.990 | 1.807 | 1.660

1.375 | 1.168 | 1.021

1.314 1.051

.413

.675

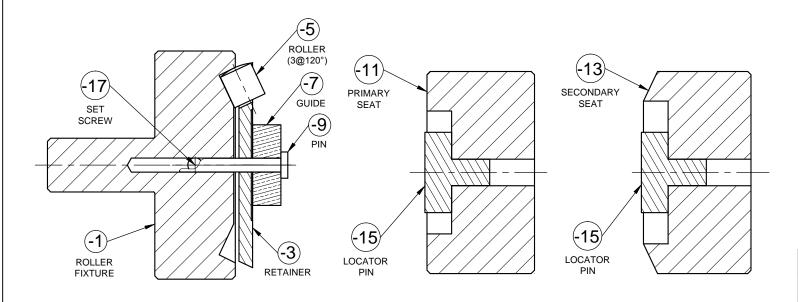
.131

.131 0-1

0

.060

$\neg$		REVISIONS			
	REV	DESCRIPTION	DATE	INITIAL	APPROVED
	1	CHANGED -3 END MILL CENTER LINE FROM .154@.015 FROM EDGE TO .170@.031 FROM EDGE, AND ADDED RST161W3228.	6/16/08	WP	
	2	CHANGED -5 ROLLER RADUIS FROM .005010, TO .015020; AND -9 PIN RADIUS FROM .015 MAX., TO .015 MIN. ALSO CHANGED -7 SLEEVE TO -7 GUIDE. REMOVED -1 AUX. VIEW.	7/7/08	WP	DW



BEARINGS COVE	
BEARING #	TOOL#
P2A2360 (PSI)	KSTP2A2360
KR4-CEGB	KSTKR4CEGB

## **NOTES**

- 1. -5 ROLLERS MUST TURN FREELY IN -3 RETAINER POCKETS.
- 2. -5 ROLLERS & -3 RETAINER MUST TURN FREELY WHEN TOOL IS COMPLETELY ASSEMBLED.
- 3. FLAT END OF ROLLERS MUST FACE TOWARDS THE CENTER OF THE TOOL WHEN ASSEMBLED.

ASSY QTY	В/О	PART#	UNIT	DESCRIPTION	B/O INFORMATION OR SPECIFICATIONS	Pg.	TITLE
		-1	1	ROLLER FIXTURE	SEE CHART	2	DWG NO
		-3	1	RETAINER	SEE CHART	3	] DWG NC
		-5	3	ROLLER	SEE CHART	4	}
		-7	1	GUIDE	SEE CHART	5	TOLER
		-9	1	PIN	SEE CHART	6	.XXX
		-11	1	PRIMARY SEAT	SEE CHART	7	.XX .X
		-13	SEE CHART	SECONDARY SEAT	SEE CHART	8	J
		-15	SEE CHART	LOCATING PIN	SEE CHART	9	2. D
	B/O	-17	1	SOCKET HEAD SET SCREW	#8-32 x 1/4	N/S	SCALE

## ® RED BARN MACHINE

KST UNIQUE SERIES TRI-ROLLER SWAGING TOOLS

DWG NO. REV CHART ABOVE) 2 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DRAWN BY: PERRITT APPROVED TOLERANCES ON: DECIMALS LISTED PER ITEM .XXX ± .005 FRACTIONS ± 1/32 .XX ± .01 .X ± .1 LISTED PER ITEM ANGLES ±.5° USED ON BEARING UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES SEE ABOVE .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING SCALE DATE SHEET 4-4-08 1 of 9 NTS

		REVISIONS												
[	REV	DESCRIPTION	DATE	INITIAL	APPR									
	_	<del></del>	-	-	-									

						1.	4		Λ	人		)		® RED BARN MACHINE	
ASS QT	Y ASS Y QTY	Y B/C	PART#	UNIT QTY	С	ESCRIPTION	N		上		MAT.	B/O INFORMATION OR SPECIFICATIONS	Pg.	TITLE ——	
			-1	1	RND			<u> </u>			6061	Ø8-1/4 x 3-7/8	2	DWG NO	RE
						$\mathcal{L}$	$\mathcal{L}$		•					UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS  TOLERANCES ON: DECIMALS	
				4		X								DECIMALS .XXX ± .005 .XXX ± .01 .X ± .01 .X + .0	
				1										UNLESS OF HERWISE SPECIFIED  1. BREAK ALL SHARP EDGES .015 x 45° PR. 015 R  2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
	ASS'	Y												scale NTS   date 8-15-07   sheet 1 o	f

	REVISIONS		
REV	DESCRIPTION	DATE	APPROVED

NOT APPROVED FOR PRODUCTION

			PAR	Т#	QTY		DESCRIF	PTION		
			-1	ı	1					
		DRAWN BY: PERRITT			— \ Г		$D \wedge D M$	$\Lambda \Lambda \Lambda \cap$	LITN	
		CHECKED HEAT_		( <u>RB</u>	1 [2	くヒリ	RAKIN	MAL	$\Box\Box\Box$	
		TREAT FINISH SPEC		TITLE						
[	USED ON MODEL	UNLESS OTHERWISE SPECIFIE DIMENSIONS ARE IN INCHES	D							
	?	TOLERANCES ON: DECIMALS .XXX ± .005 EDACTIONS + 1						-		
ł		XX ± .005 FRACTIONS ± 1 .XX ± .01 ANGLES ±.6		DWG 1	NO.		PART	#		REV.
f		UNLESS OTHERWISE SPECIFIED  1. BREAK ALL SHARP EDGES	)				1 1 11 \ 1	11		
		.015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	3	SCALE		NTS	DATE 1-28-0	06   <sup>sheet</sup> :	l of	1